

# STRATEGIC INTENT AND E-BUSINESS IN SMES: ENABLERS AND INHIBITORS

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## Abstract

*Small firms' use of e-business is limited and little is known about what drives small businesses (SMEs) to embrace e-business. It first discusses different growth strategies adopted by SMEs and reviews Internet adoption in SMEs. Drivers and inhibitors of e-business are identified. Three research questions are derived - does strategic intent drive e-business adoption and is it a factor of market position or product innovation? Is this consistent across sectors? And how is strategic intent and industry adoption influenced by the enablers and inhibitors of e-business adoption? Using survey data from 354 SMEs in the UK West Midlands the paper investigates these. The research demonstrates that strategic intent influences decisions to invest in e-business. Those SMEs remaining in their existing markets are the least likely to invest, primarily due to the Internet not being seen as necessary for growth. Product innovation rather than market penetration drives e-business. e-Business drivers and inhibitors provide insights into this.*

*Keywords: small and medium sized enterprises, Internet adoption, e-business, strategic intent*

## 1 INTRODUCTION

Small and medium sized enterprises (SMEs) are a vital and growing part of many economies. However, development of e-business in SMEs is slow despite governmental efforts. The limited research into this identifies perceived benefit as the major driver (Poon and Swatman 1999, Mehrrens et al 2001). However, other factors may influence SMEs' decisions to invest in e-business. For example, research identifies SMEs' adoption of information and communication technologies (ICT) to manage and grow as either cost or valued-adding (Levy et al 2001) largely depending upon the firm's strategic intent. This paper investigates whether, and in what way, strategic intent affects SMEs attitudes to Internet adoption. It also considers drivers and inhibitors of e-business adoption to determine any relationship between these and strategic intent. Here, strategic intent encompasses two dimensions: markets and products. Most SMEs plan growth through a combination of these (Storey 1994).

The paper surveys SMEs in the UK West Midlands to investigate these issues. It first discusses different growth strategies adopted by SMEs and then reviews Internet adoption in SMEs. Drivers and inhibitors of e-business are identified. Three research questions are derived - does strategic intent drive e-business adoption and is it a factor of market position or product innovation? Is this consistent across sectors? And how is strategic intent and industry adoption influenced by the enablers and inhibitors of e-business adoption? Survey data is used to address these questions and the implications analysed.

## 2 SMES AND STRATEGIC INTENT

Strategy is 'action taken by the firm once in business' (Storey 1994). Market positioning, new product introduction and technological sophistication are the key drivers. Storey suggests it is the relationship between the entrepreneur, the SME's strategy and its context that is important for growth. Strategic intent in SMEs may be usefully understood using Ansoff's (1965) framework. This identifies four strategies for growing businesses (Figure 1). Market penetration is continuing to sell current products into current markets. Market development is selling current products into new markets. Product development is selling new products into current markets. Diversification is selling new products into new markets.

	Current Product	New Product
Present Market	Market Penetration	Product Development
Future Market	Market Development	Diversification

Figure 1: Strategic Intent framework (Adapted from Ansoff 1965:109)

This model is relevant to SMEs' strategic intent as there are identifiably different business objectives among small firms. The focus-dominance model for SMEs (Levy et al 2001) which considers the strategic focus of SMEs and the dominance of customers within the market supports the proposition that SMEs have different strategic intents (Figure 2).

<b>Customer Dominance</b>	Low	Co-ordination	Repositioning
	High	Efficiency	Collaboration
	<b>Cost</b>		<b>Value Added</b>
	<b>Strategic Focus</b>		

Figure 2: Focus-dominance model (Levy et al 2001)

While the focus-dominance model is concerned with investment in ICT to manage the business, the different scenarios clearly suggest diverse strategic intents. The efficiency scenario is found when SMEs are starting up. However, there are some SMEs wherein the owners are in business for 'lifestyle advantages' (Hay and Kamshad 1994). In particular, they like the freedom to pursue a particular business interest, and to produce sufficient income to have a comfortable life. They are only interested in selling their current products into existing markets. Their use of ICT mirrors this. These organizations usually have simple standalone systems possibly with a simple website (Levy et al 2001).

The co-ordination scenario is found as businesses grow. The businesses here are increasingly looking to sell their products into new markets. They are looking for steady growth for their existing products. They utilise more sophisticated IS to allow them to do this including the development of intranets and often external e-mail to work with customers (Levy et al 2002).

Product development is the focus of the collaboration scenario. This group of SMEs is usually closely allied to a few major customers and develops new products to support their requirements. These SMEs seek growth, but through the development of customer relationships. IS here include use of electronic data interchange and often extranets.

While the SMEs in the co-ordination and collaboration cells often seek steady growth, the final group in the repositioning scenario sees diversification as the way forward as they are looking for rapid growth. This often means different delivery means for products but also developing new product to satisfy their markets. This group is likely to put ICT at the centre of business growth strategies.

Thus, Ansoff's framework is a useful means of considering strategic intent, as the focus dominance model suggests a mapping of SMEs strategic growth intentions.

### 3 ENABLERS AND INHIBITORS OF E-BUSINESS IN SMES

One Internet adoption model (Mehrtens et al 2001) suggests three drivers of SMEs' decisions to invest in e-business - perceived benefits, organisational readiness and external pressures. There are three aspects to perceived benefit. First, efficiency benefits arise from improved communication using e-mail (Poon 2000). In common with most large businesses, SMEs have embraced e-mail (Poon and Swatman 1999), with 90% of SMEs using it regularly after its introduction (Chapman et al 2000). SMEs are less likely to see benefit from internal e-mail communication given their smaller size and greater personal familiarity (Allcock et al 1999). Lower skill levels and poorer technological infrastructure also hamper intra-firm electronic communication. Second, effectiveness benefits obtain from the ability to gather research and competitor information. Third, the Internet presents a modern image and improves SME promotion. Identifying new business opportunities is also a perceived benefit (Chapman et al, 2000).

Organisational readiness for Internet adoption is personified in the SME owner. SMEs do not see Internet adoption as an IT issue, but as a business one. SMEs that are attracted to Internet commerce tend to be more entrepreneurial, risk takers, innovative and, invariably, creative (Poon and Swatman 1999). A second organisational readiness factor is the requirement for SMEs to have adequate IS to access the Internet.

The final factor, external pressure, is primarily from customers, though suppliers and employees exert influence. While Poon (2000) recognizes customer pressure as influential, a lack of customer use is an inhibitor, particularly of e-mail (Sillence et al 1998). However, few SMEs integrate their websites with their back-office systems. While many see value in e-mail there is scant evidence of decisions to invest in internal networks or e-business systems (Keindl 2000).

Most SMEs do not view the Internet as key to their business strategy. Strategy is rarely raised as an enabler or as an inhibitor in the literature. The owner is critical in determining Internet development (Levy and Powell 2003). However, strategic commitment has been shown to be critical in Singaporean SMEs (Kowtha and Choon 2001). Indeed, Internet adoption is faster when SMEs recognise a business need (Kendall et al 2001).

Moving to e-commerce requires more consideration. E-commerce Internet use amongst SMEs may take many forms, from simply using the web to purchase supplies to developing a website to sell products and services. However, the time spent on Internet adoption and development interferes with the core business activity (Poon and Swatman 1999). Additionally, customer push is beginning to move SMEs along the Internet adoption ladder, particularly among those SMEs that are preferred suppliers (Poon 2000). However, EDI is the mandated means of order processing by many major SME customers, particularly in UK manufacturing (Levy and Powell 1998). Many SMEs have invested heavily in EDI and their current dilemma is whether to fulfil customer demands to move to Internet-based systems. This is, in part, due to SMEs' concerns about e-commerce adoption that inhibit future development (Van Akkeren and Cavaye 2000). These inhibitors include:

- cost of implementation
- need for immediate return on investment
- complexity of technologies like EDI which could require new skills
- lack of organizational readiness with many SMEs having limited existing IT resources
- lack of perceived benefits
- lack of assertiveness by the owner/manager
- security, including confidentiality and fraud

For most SMEs, failure to plan the introduction and exploitation of new technology stems from management limitations (Van Akkeren and Cavaye 2000, Klein and Quelch 1997, Levy and Powell 2000, Premkumar and Roberts 1999) such as:

- management having insufficient time to spend on future business developments
- management teams having little experience, skill or interest in exploiting technology
- maturity and experience of the owner
- limited IS skill in-house
- limited IS adoption driven by a lack of trust of external IS sources
- limited financial resources

Thus, a range of issues may affect SMEs decisions to invest in e-business and to take advantage of future opportunities. This paper considers whether these factors affect all SMEs or if strategic intent acts as a moderator of the enablers and inhibitors.

## **4 RESEARCH QUESTIONS**

This research centres on three questions:

- There is evidence that strategic intent drives SME ICT adoption. Does strategic intent also drive e-business adoption, and is it a factor of market position or product innovation?
- Is this consistent across sectors, given research suggesting that sector is not a determining factor in ICT adoption (Levy et al 2001)?
- How is strategic intent and industry adoption influenced by the enablers and inhibitors of e-business adoption?

## 5 RESEARCH METHOD

These research questions can only be answered by considering a large sample of SMEs. In particular, these research questions seek to map out the terrain through analysis of trends and patterns. Thus a survey is the most effective means of achieving this. The survey instrument is designed to capture information about the strategic intent of the SMEs as defined by the Ansoff framework. Additionally, information about the current and future use of the Internet is collected. The importance of e-business to the SMEs is determined and the drivers and inhibitors of e-business identified. The survey is designed as part of a major study into Internet adoption in the West Midlands of the UK undertaken in May 2001. The region is regarded by government as in need of development. One means of improving the economic outlook is through encouraging new industries and supporting existing ones in developing e-business opportunities. One of the outcomes of the survey is to inform regional policy towards e-business adoption amongst SMEs. The survey covered all sub-regions within the West Midlands. The main criterion for inclusion is firm size. This paper follows the EU definition of an SME as a firm with less than 250 employees ([www.sbs.gov.uk/statistics/smedefs.php](http://www.sbs.gov.uk/statistics/smedefs.php) accessed November 2003). The data was collected by telephone with the respondent the SME owner who is knowledgeable about strategic intent.

### 5.1 Data Analysis

A total of 1,403 firms responded to the questionnaire. On closer inspection of the data, it appears that a number of responses were obtained from cases that could not be considered to be SMEs. They were often small business units operating within larger organisations (the 136 responses from the Education and Health Sectors were examples of this).

Respondents were excluded if they answered that no employees used personal computers in the course of their work. 625 firms were thus excluded from further analysis. Responses in the education and health sectors were then deleted for the reasons given above, leaving 694 firms.

Firms are asked about their strategic intent. Four criteria for strategic intention from existing markets and existing products to new product and new markets are identified. The construction industry was removed from the sample at this stage as it was clear that 80% of the firms in this sector aimed to stay within existing markets and existing products. This contrasted with the other sectors that had over 50% of SMEs moving towards new products and new markets.

This left a sample of 477 companies within the manufacturing, financial, business services, and wholesale/retail sectors. The financial and business services sectors were grouped together within the sample.

Finally, companies with 2 or less employees that had no intention of using technology to grow their business were removed. These micro firms had no Internet based strategic intent no matter which of the four strategic intent segments they fell into. This left a sample of 354 SMEs in three sectors – manufacturing, business services and wholesale/retail.

### 5.2 Dimensions of analysis

The two dimensions used in the analysis are:

Dimension 1: Business Sector (BS)

- Manufacturing
- Wholesale-Retail
- Business Services

Dimension 2: Strategic Intention (SI) - *e* and *n* denote existing and new, for *m* and *p*, markets and products.

- 'emep' - SMEs that intend to persist with existing market and existing products
- 'emnp' - SMEs that intend to persist with existing market but develop new products
- 'nmep' - SMEs that intend to persist with existing products but develop new markets
- 'nmnp' - SMEs that intend to develop new markets *and* new products

Firms in the *emep* category are deemed to take a more conservative strategic stance than those *emnp* and *nmep*, while those in *nmnp* take the most radical stance.

## 6 STRATEGIC INTENT PATTERNS

Respondents are asked where they expected most growth - in current or new products/services - and whether the growth would be in new or existing markets in order to assess strategic intent. The *emep* category accounts for 172 (49%) of firms; *emnp* for 82 (23%), *nmep* for 43 (12%) while *nmnp* accounts for 56 firms (16%).

Many SMEs start as a result of identifying a market niche for one or two products with which the owner is familiar, has knowledge to develop and possibly initial contracts. Many stay within the comfort zone of their knowledge and experience, preferring not to grow beyond a certain size.

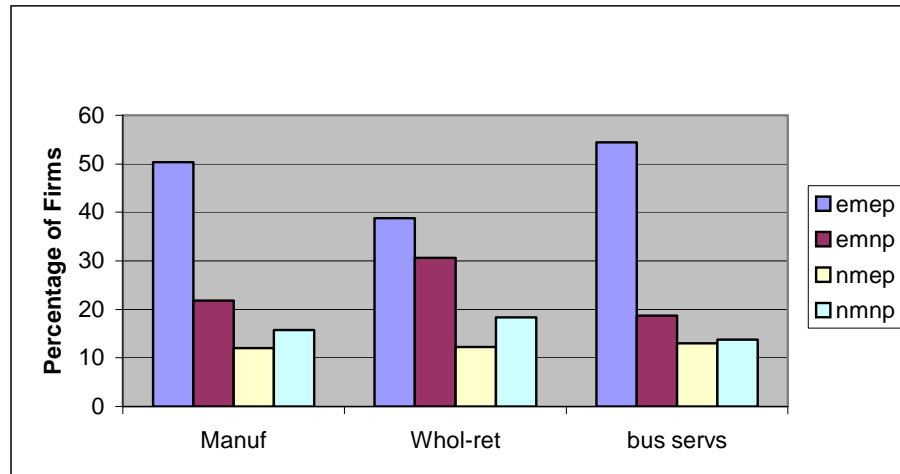


Figure 3: Strategic Intent by Industry

The wholesale/retail sector provides a slightly different pattern of strategic intent to the other sectors (Figure 3) perhaps reflecting market volatility, as this market requires new products more frequently. A further reason may relate to the SME-customers relationship. As many manufacturers are tied in with customers, their products are more clearly defined by a preferred supplier relationship. Given the strategic intent of most firms is limited, it is likely that the main focus of ICT will be on systems that reduce costs. Owners are less likely to invest for future growth.

## 7 CURRENT USE OF THE INTERNET

86% of SMEs have Internet access, with little industry variation; all use e-mail. 40% of these firms use e-mail internally and externally, suggesting there is some recognition of Internet value in managing internal efficiencies as well as external communication. 53% of the SMEs have a marketing website, with 56% of these updating it at least once a quarter. While there is little cross-sector difference,

strategic intent does appear to drive development with over 63% of firms that are looking to introduce new products to existing markets having marketing websites.

### 7.1 Importance of the Internet in Achieving Business Growth

SMEs are asked about the importance of the Internet in achieving business growth over the next year and the responses analysed by strategic intent and business sector jointly (Table 1).

Some important distinctions emerge: firms in business services show a clear and marked gradation across strategic intent types. While 27% of business services firms in the *emep* category see the Internet as very important, this increases to 35% in *emnp*; 47% in *nmep*; and to 59% in the *nmnp* category. This may reflect new opportunities emerging because of the Internet. Delivery of products and services and development of new services may be more likely in business services.

Somewhat counter-intuitively, the reverse is found for manufacturers: while 25% of *emep* manufacturers view the Internet as very important, this declines to 24% in the *emnp* category; to 19% in *nmep* and to 9.5% in *nmnp*. However, this might reflect the well-developed relationships with customers driving Internet adoption in the *emep* category, while new markets are found in other ways.

SI	Sector	Unimportant	Marginally important	Moderately important	Very important
emep	Manuf	25.4	28.4	20.9	25.4
	Whol-ret	21.1	28.9	21.1	28.9
	Bus servs	6.0	23.9	43.3	26.9
	<b>Total</b>	<b>16.9</b>	<b>26.7</b>	<b>29.7</b>	<b>26.7</b>
emnp	Manuf	6.9	27.6	41.4	24.1
	Whol-ret	13.3	23.3	43.3	20.0
	Bus servs	4.3	17.4	39.1	34.8
	<b>Total</b>	<b>8.5</b>	<b>23.2</b>	<b>41.5</b>	<b>25.6</b>
nmep	Manuf	18.8	43.8	18.8	18.8
	Whol-ret	0	58.3	33.3	8.3
	bus servs	20.0	13.3	20.0	46.7
	<b>Total</b>	<b>14.0</b>	<b>37.2</b>	<b>23.3</b>	<b>25.6</b>
nmnp	Manuf	23.8	38.1	28.6	9.5
	Whol-ret	22.2	27.8	27.8	22.2
	Bus servs	5.9	17.6	17.6	58.8
	<b>Total</b>	<b>17.9</b>	<b>28.6</b>	<b>25.0</b>	<b>28.6</b>

Table 1: Importance of the Internet for Growth by Sector and Strategic Intent

The wholesale and retail sector show more *emep* firms consider the Internet as important for strategic growth. However, firms in *nmep* present little interest in the Internet. It is surprising that the Internet is not seen as a distribution method for products, although it may reflect the type of products for which the Internet is not a suitable distribution mechanism. Alternatively, it may reflect a desire not to trade outside a limited geographic area.

## 8 IMPORTANCE OF E-BUSINESS

SMEs are then asked about their attitude to e-business and its importance in three years. 51% of survey SMEs regards e-business as essential or very important. The cross-sector patterns are similar. E-business is less important for manufacturers than for the other sectors, with only 45% of SMEs considering it either essential or very important. One explanation may be the perception that e-

business is about consumer trading rather than supporting customer requirements through business-to-business exchanges. This is somewhat surprising given the emphasis placed on the importance of EDI by many major manufacturers. However, the other sectors are only slightly more optimistic suggesting that there is still a need to educate owners about future Internet potential (Figure 4).

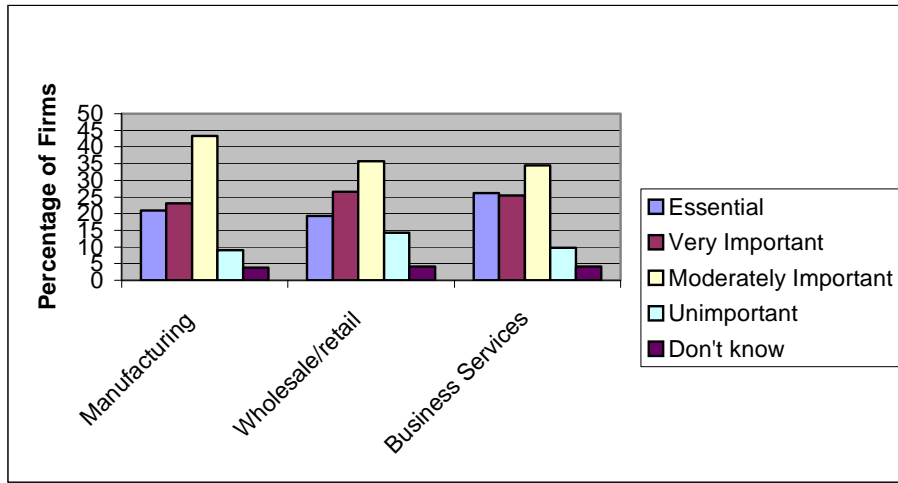


Figure 4: Importance of E-Business by Industry

Table 2 shows analysis by strategic intent of firms that see e-business as essential or very important.

Strategic Intent	Essential	V. Important	Both
Emep	23	17	40
Emnp	17	38	55
Nmep	23	28	51
Nmnp	29	25	54

Table 2: Importance of E-Business by Strategic Intent

Clearly, firms that are most strategically conservative are less likely to see e-business as essential or very important. For example, manufacturers in the *emep* category are least likely to see it as essential or very important (34%). Interestingly, firms that intend to develop new products are more likely to see the future importance of e-business. This suggests that contrary to current thinking, the use of technology is triggered more by a new product orientation in firms than by a new market orientation. For example, business services firms in the *nmnp* category are most likely to see e-business as essential or very important (65%). Thus, while many SMEs can be criticized for having a too one-sided perspective on strategic development there is a need to encourage SMEs to take a more simultaneous view of new product development *and* new market development.

## 8.1 Drivers for E-Business

SMEs are asked the importance of the following issues in encouraging them to use e-business. Table 3 shows the percentage of firms in each of 12 categories that replied 'very important' to each.

- customer demand
- reduced operating costs
- reduction in costs associated with sales and purchasing
- improve the range and quality of services which can be offered to customers on-line
- Increase in speed of dispatch of goods



- Increase in speed by which suppliers are obtained
- Avoiding loss of market share to competitors already using e-business
- Increase market share

Strategic intent			Customer demand	Reduced ops costs	Reduced sales/purchasing costs	Improve services online	Speed of dispatch	Increased speed supplies	Avoid losing market share	Winning new customers
emep	broader sic	Manuf	47.5	13.1	9.8	19.7	16.4	19.7	16.4	24.6
		Whol-ret	37.5	34.4	31.3	34.4	28.1	21.9	37.5	40.6
		bus servs	30.0	25.0	15.0	40.0	20.0	15.0	23.3	40.0
	<b>Total</b>		<b>38.6</b>	<b>22.2</b>	<b>16.3</b>	<b>30.7</b>	<b>20.3</b>	<b>18.3</b>	<b>23.5</b>	<b>34.0</b>
emnp	broader sic	Manuf	50.0	38.5	38.5	30.8	26.9	30.8	46.2	57.7
		Whol-ret	38.5	30.8	26.9	26.9	34.6	38.5	30.8	46.2
		bus servs	40.0	40.0	35.0	45.0	40.0	35.0	55.0	55.0
	<b>Total</b>		<b>43.1</b>	<b>36.1</b>	<b>33.3</b>	<b>33.3</b>	<b>33.3</b>	<b>34.7</b>	<b>43.1</b>	<b>52.8</b>
nmep	broader sic	Manuf	40.0	20.0	13.3	33.3	20.0	26.7	20.0	20.0
		Whol-ret	33.3	8.3	8.3	8.3	8.3	8.3	33.3	25.0
		bus servs	30.8	30.8	23.1	46.2	23.1	15.4	38.5	53.8
	<b>Total</b>		<b>35.0</b>	<b>20.0</b>	<b>15.0</b>	<b>30.0</b>	<b>17.5</b>	<b>17.5</b>	<b>30.0</b>	<b>32.5</b>
nmnp	broader sic	Manuf	26.3	21.1	21.1	26.3	10.5	21.1	36.8	42.1
		Whol-ret	64.7	41.2	23.5	41.2	41.2	17.6	35.3	52.9
		bus servs	37.5	12.5	18.8	31.3	18.8	18.8	25.0	25.0
	<b>Total</b>		<b>42.3</b>	<b>25.0</b>	<b>21.2</b>	<b>32.7</b>	<b>23.1</b>	<b>19.2</b>	<b>32.7</b>	<b>40.4</b>

Table 3: Drivers for E-Business Adoption

The different drivers have differing effects on different categories of firm. Customer push/demand is highest for manufacturers in the *emep*, *emnp* and *nmep* categories but particularly pronounced for wholesale/retailers that are looking to develop new products in new markets.

Reducing purchasing cost and operating costs are most prevalent for firms in the *emnp* category, perhaps indicating a heightened need to reduce the cost-base of products to win market share for new products in existing markets. The need to use e-business to reduce purchasing and operating costs is particularly prevalent among *emep* wholesale/retailers - again there may be a strong emphasis on the need to reduce all costs to continue to survive with existing products in existing markets. Firms looking to develop new markets seem less concerned about the use of e-business to reduce costs - perhaps this might arise after new markets are penetrated and firms need to compete more on cost than on 'novelty' and innovation.

Improving the range and quality of services delivered on-line item is most pronounced in business services across all strategic intent categories and in wholesale/retailers looking to develop new products in new markets.

The speed of dispatch driver is strongest for business services in the *emnp* category and for *nmnp* wholesalers. The increased speed of supply items is most prevalent in the *emnp* strategic intent category as is concern about the loss of market share and winning new customers.

Clearly, the *emnp* category emerges as a class of business with a specific and pronounced set of needs and concerns about the move to e-business. Firms in this category have a great interest in e-business given their need to:

- Reduce operating costs and costs associated with sales and purchasing;
- Increase speed in doing business (important in generating customer satisfaction/lock-in);

- Win new customers;
- Avoid losing their existing customer base

Table 3 relates e-business drivers to sector and strategic intent, as the impact of the drivers has a differential impact across the 12 categories of SME.

## 8.2 Inhibitors of E-business Adoption

Respondents are asked whether, and to what degree, they agree with nine statements that may discourage them from adopting e-business. The statements involve:

- concerns about confidentiality
- concerns about the risk of fraud
- technology costs associated with e-business development being too high
- poor public telecommunications infrastructure inhibiting technological development
- obtaining authorization for credit card clearance
- IT skills shortages amongst the workforce
- lack of management willingness to adopt IT as an obstacle to further e-business development
- further e-business development offers no tangible benefits
- further e-business development is not relevant

Respondents were offered 5 categories of response ranging from totally agree to totally disagree. A 'net agree' score is calculated for each category of firm on each factor. The net score adds together those agreeing or strongly agreeing and subtracts those disagreeing or strongly disagreeing (Table 4). Therefore the higher the number, the more respondents agree with the statement.

		Confident iality	Fraud	Tech costs too high	Poor telcomms	Credit card clearance	Skill shortages	Mgt unwilling	No Benefits	Not relevant
Strategic intentions		Net agree	Net agree	Net agree	Net agree	Net agree	Net agree	Net agree	Net agree	Net agree
emep	Manuf	29.5	32.9	0.0	-13.1	-18.1	-50.9	-32.9	-16.4%	-27.8%
	Whol-ret	3.1	-3.1	-31.2	-21.9	-18.8	-18.7	-43.8	-15.6	-31.3
	Bus serv	36.7	25.0	13.3	-13.3	-20.0	-28.3	-33.4	-25.1	-19.9
	<b>Total</b>	<b>26.8</b>	<b>22.2</b>	<b>-1.3</b>	<b>-15.0</b>	<b>-19.0</b>	<b>-35.3</b>	<b>-35.3</b>	<b>-19.6</b>	<b>-25.5</b>
emnp	Manuf	34.6	30.8	3.8	-15.4	-30.8	-11.6	-34.6	-19.3	-19.3
	Whol-ret	-7.7	3.9	0.0	-3.9	-30.8	-23.1	-42.4	-23.0	-34.7
	Bus serv	-10.0	-5.0	-40.0	-20.0	-30.0	-15.0	-40.0	-15.0	10.0
	<b>Total</b>	<b>7.0</b>	<b>11.1</b>	<b>-9.8</b>	<b>-12.5</b>	<b>-30.6</b>	<b>-16.7</b>	<b>-38.9</b>	<b>-19.4</b>	<b>-16.7</b>
nmep	Manuf	-6.7	-13.3	-0.1	-13.3	-13.3	-33.3	-33.4	-26.6	-20.0
	Whol-ret	58.4	0.0	-8.3	-50.0	-41.6	-58.4	-58.3	-50.0	-33.3
	Bus serv	61.6	53.9	38.4	7.7	15.4	-38.5	-53.9	-61.5	-53.8
	<b>Total</b>	<b>35.0</b>	<b>12.5</b>	<b>10.0</b>	<b>-17.5</b>	<b>-12.5</b>	<b>-42.5</b>	<b>-47.5</b>	<b>-45.0</b>	<b>-35.0</b>
nmnp	Manuf	36.8	58.0	-10.6	-5.3	-10.6	-5.2	0.0	-5.2	-5.2
	Whol-ret	29.4	29.5	23.4	-23.6	-5.9	-41.2	-35.2	-23.4	-23.6
	Bus serv	43.8	37.5	12.4	12.5	18.8	-18.7	-18.8	-25.0	-12.5
	<b>Total</b>	<b>36.5</b>	<b>42.3</b>	<b>7.7</b>	<b>-5.7</b>	<b>0.1</b>	<b>-21.2</b>	<b>-17.3</b>	<b>-17.4</b>	<b>-13.4</b>
<b>Overall</b>		<b>24.8</b>	<b>21.6</b>	<b>0</b>	<b>-13.0</b>	<b>-15.3</b>	<b>-29.3</b>	<b>-34.5</b>	<b>-22.6</b>	<b>-22.6</b>

Table 4: *Inhibitors of E-business Adoption by Sector and Strategic Intent*

There is a net positive view that firms are concerned about confidentiality and fraud over the Internet, and these views are most pronounced among *nmnp* SMEs. The net agree score for confidentiality and

fraud in firms in the *nmep* category is 36.5 and 42.3 respectively and these are higher than any other strategic intent category. There are particular concerns about confidentiality and fraud among business service SMEs in the *nmep*, *nmnp* and *emep* sectors, together with wholesale/retailers in *nmep* (confidentiality only). Business Service firms in the *emnp* sector seem less concerned about confidentiality and fraud than business service firms in other strategic intent categories.

As to technology costs being excessive, the 'jury is still out'. Although there are concerns about technology costs in the business services *nmep* and the wholesale/retail *nmnp* categories this is countered by low scores in the wholesale/retail *emep* and the business services *emnp* categories. Concerns about credit card clearance do not seem to be an issue except in the business services *nmnp* and *nmep* categories - the only two categories to record a positive net, agree score.

A skill shortage measure gets a strong negative score across the board. Skill shortages are more evident in firms that wish to develop new products for existing markets or develop new markets and new products, suggesting that skills may be more of an issue where the objective is to develop new products. Manufacturers in the *nmnp* category are more likely to experience skills shortages than all other classes of firm followed by manufacturers in the *emnp* category.

Management unwillingness achieves a high negative net agree score. However, the *nmnp* manufacturers are radically different as it is the only sector to reveal any significant negativity among managers. Both the 'not relevant' and 'no benefits' measures have negative scores across the board - but negativity is less pronounced in manufacturing *nmnp*.

## 9 DISCUSSION AND CONCLUSION

Three research questions are posed in this paper. The first focuses on whether strategic intent drives e-business adoption and whether it is a function of market position or product innovation. This research shows that those SMEs remaining in their existing markets are the least likely to invest, primarily due to the Internet not being seen as necessary for growth and less interest in winning new customers. The main finding here is that it is product innovation rather than market penetration that drives e-business. This counters current thinking that market penetration is the more critical.

The second research question is whether industry sector is a determining factor in e-business adoption. Only around half the SMEs in all sectors believe e-business is either very important or essential. There is some sectoral difference when firms rate the importance of the Internet for growth. Over 35% of Business Service firms see the Internet as very important. This compares with just over 20% for manufacturing and wholesale/retail. More research is required to confirm whether there is industry differentiation and the nature of that differentiation.

The final research question asks whether enablers and inhibitors of e-business adoption vary by strategic intent or industry. There is little differentiation between sectors or strategic intent perspectives with customer demand, increasing market share, avoiding loss of market share and improving on-line services to customers seen as vital to most firms. These findings confirm existing research. This suggests that SMEs believe their market niches are their strengths and where they should continue to compete. The main difference is in the wholesale/retail sector where being able to dispatch goods more quickly is seen as the main driver. This may indicate that this is a more highly competitive market and that firms need to be efficient to survive. Other efficiency factors are viewed as less important. The key difference in strategic intent is that those firms in the *emnp* group perceive the need to improve online services to customers as of lesser importance than reducing operating costs.

Turning to inhibitors, concerns about confidentiality, fraud and the high cost of e-business are the main deterrents across all sectors and strategic intent groups. This concurs with the literature. However in contrast to other research, most SMEs here do not believe that limited workforce IT skills nor management unwillingness are issues except in more innovative firms looking to develop new

products in new markets. This may be due to firm age and existing skills bases. SMEs also believe, to a lesser degree, that e-business is both relevant and may offer some benefit.

Thus, it appears that the pressure to adopt is driven by external factors rather than internal ones. This may partially explain the cautious approach of SMEs to Internet adoption given their resource constraints; they may be waiting for signs from the market that the investment is required.

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